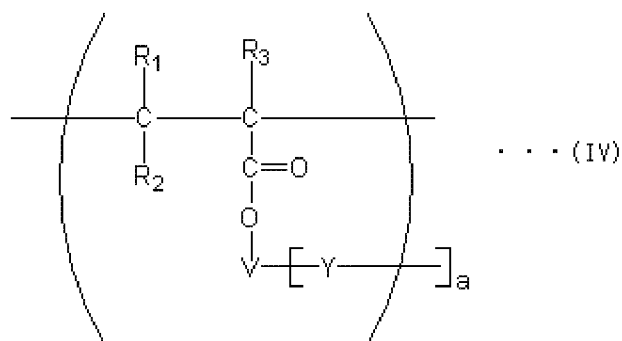
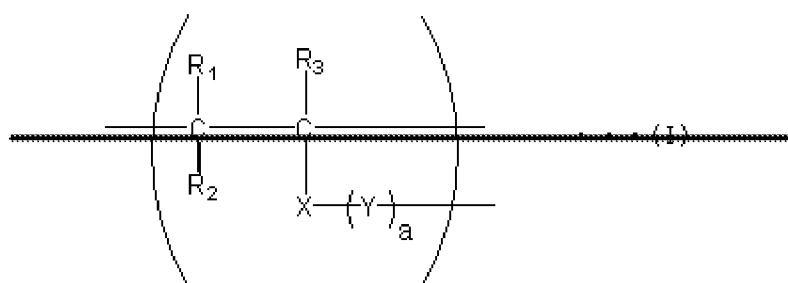


AMENDMENTS TO THE CLAIMS

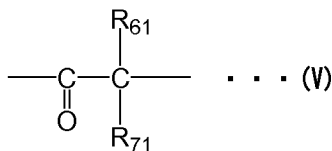
1. (Currently Amended) A multi-branched polymer having repeating units represented by a formula ~~(I)~~ (IV):



(wherein R_1 to R_3 each independently represents hydrogen or a hydrocarbon group, R_1 may be bonded to R_3 to form a ring; ~~X represents a connecting group having a valence of 3 or higher;~~ Y may be the same or different and each represents a functional group with a structure where a halogen atom becomes an active halogen atom when the halogen atom is bound to a constituting carbon atom; ~~and~~ ~~a~~ a is an integer of 2 or larger; and V represents an alkylene polyoxy group having a valence of 3 or higher).

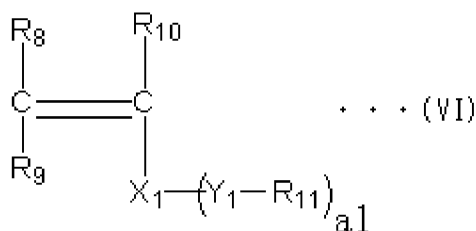
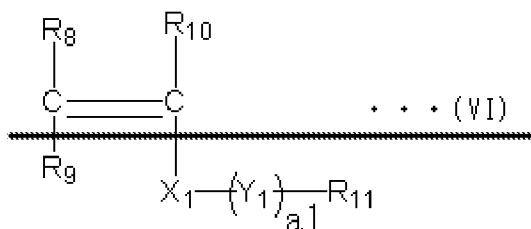
2 to 5. (Canceled)

6. (Currently Amended) The multi-branched polymer according to claim 1 ~~4 or 5~~, wherein in the formula (IV), Y is a functional group represented by a formula (V):



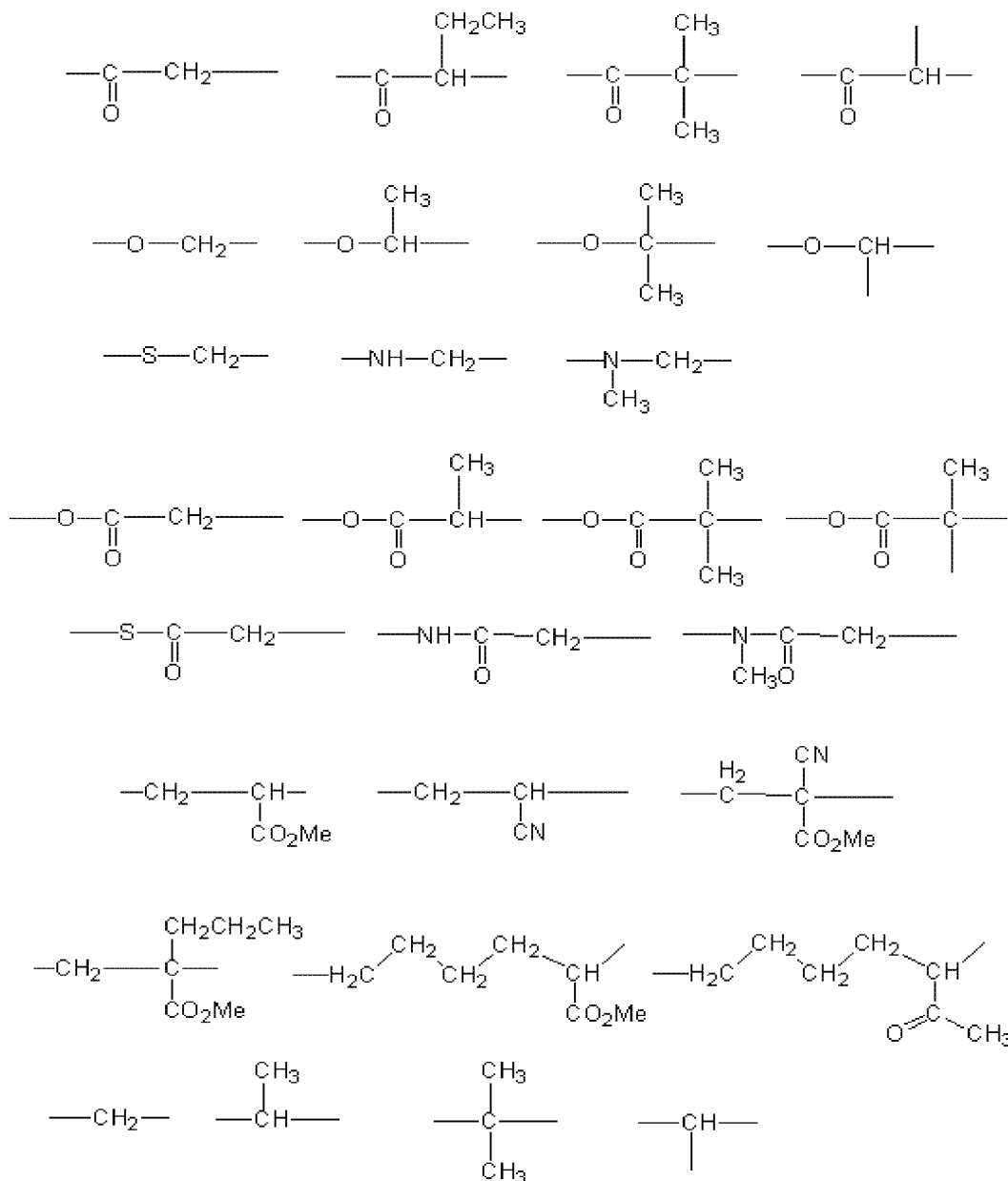
(wherein R₆₁ and R₇₁ each independently represents hydrogen, a halogen atom, an alkyl group which may have a substituent, or a linkage with other repeating units with a proviso that R₆₁ and R₇₁ do not become linkages with other repeating units at the same time).

7. (Currently Amended) A process for preparing multi-branched polymer ~~obtained with a comprising:~~ living radical polymerization ~~method using a metal catalyst by polymerizing of the~~ compounds represented by a formula (VI):



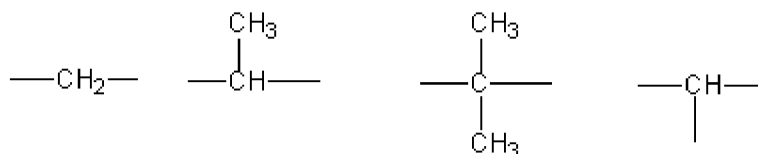
(wherein R₈ to R₁₀ each independently represents hydrogen or a hydrocarbon group, and R₈ may be bonded to R₁₀ to form a ring; X₁ represents a connecting group having a valence of 3 or higher; Y₁ may be the same or different and each represents a functional group with a structure where a

halogen atom becomes an active halogen atom when the halogen atom is bound to a constituting carbon atom; al is an integer of 2 or larger, Y_1 is selected from the functional groups of



; and,

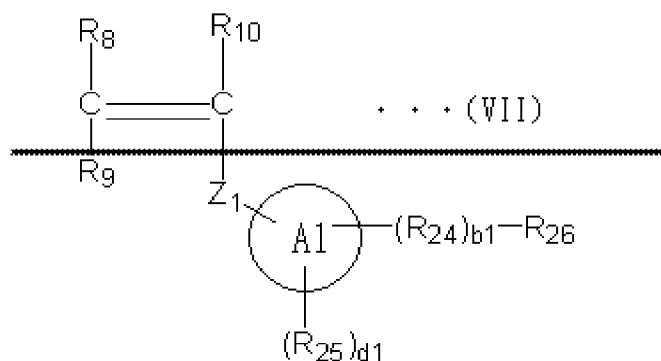
_____ when X_1 is an aromatic hydrocarbon group or an aromatic heterocyclic group, Y_1 is selected from the functional groups of

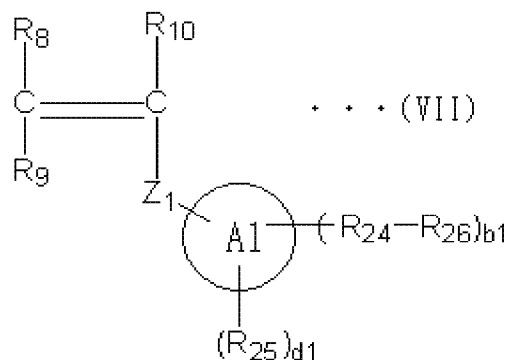


; and R_{11} represents a chlorine atom, a bromine atom, or an iodine atom) using a metal catalyst, wherein

_____ the reactions at the polymerization-initiation site and the polymerizable unsaturated bond in formula (VI) are performed simultaneously.

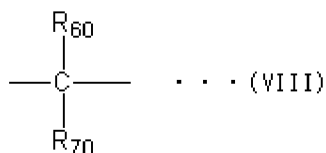
8. (Currently Amended) The process for preparing multi-branched polymer according to claim 7, wherein the compounds represented by the formula (VI) are compounds represented by formula (VII):





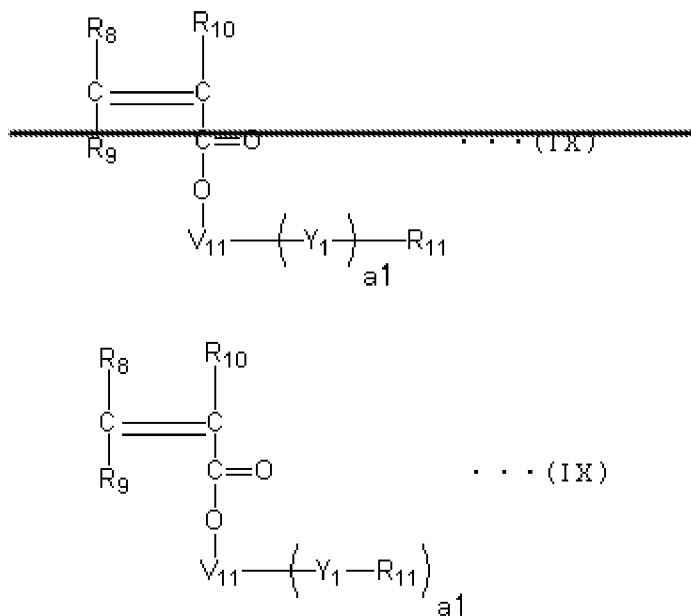
(wherein R₈ to R₁₀ are as defined above; Z₁ represents a single bond or a connecting group having a valence of 2 or higher; A1 represents an aromatic hydrocarbon group or an aromatic heterocyclic group; R₂₄ may be the same or different and each represents a functional group which may have an active halogen atom; b1 is an integer of 2 or larger; R₂₅ represents a halogen atom or an organic group and d1 is 0 or an integer of 1 or larger and R₂₅ may be the same or different when d1 is 2 or larger; R₂₆ represents a chlorine atom, a bromine atom, or an iodine atom).

9. (Currently Amended) The process for preparing multi-branched polymer according to claim 8, wherein in the formula (VII), Z₁ is a single bond, Al is an aromatic hydrocarbon group, and R₂₄ is a functional group represented by a formula (VIII):



(wherein R₆₀ and R₇₀ each independently represents hydrogen, a halogen atom, or a C1 to C6 alkyl group which may have a substituent with a proviso that R₆₀ and R₇₀ are not halogen atoms other than fluorine atoms at the same time).

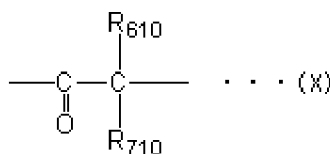
10. (Currently Amended) The process for preparing multi-branched polymer according to claim 7, wherein the compounds represented by the formula (VI) are compounds represented by a formula (IX):



(wherein R_8 to R_{10} are as defined above respectively; V_{11} represents a connecting group having a valence of 3 or higher; Y_1 may be the same or different and each represents a functional group which may have an active halogen atom; a_1 is an integer of 2 or larger; and R_{11} represents a chlorine atom, a bromine atom, or an iodine atom).

11. (Currently Amended) The process for preparing multi-branched polymer according to claim 10, wherein V_{11} is an alkylene polyoxy group in the formula (IX).

12. (Currently Amended) The process for preparing multi-branched polymer according to claim 10 or 11, wherein in the formula (IX), Y_1 is a functional group represented by a formula (X):



(wherein R_{610} and R_{710} each independently represents hydrogen, a halogen atom, an alkyl group which may have a substituent, or a linkage with other repeating units with a proviso that R_{610} and R_{710} do not become linkages with other repeating units at the same time).

13. (Original) The multi-branched polymer according to any one of claim 1 or 7, wherein a ratio (M_w/M_n) of weight average molecular weight (M_w) to number average molecular weight (M_n) of the polymer is in a range between 1.01 and 9.99.

14. (Original) The multi-branched polymer according to any one of claim 1 or 7, wherein the number average molecular weight (M_n) of the polymer is in a range between 200 and 20,000,000.

15. (Original) The multi-branched polymer according to any one of claim 1 or 7, wherein the multi-branched polymer is a hyperbranched polymer.

16 to 19. (Canceled)

20. (Original) A star polymer having the multi-branched polymer according to claim 1 or 7.